

MATERIAL SAFETY DATA SHEET**PROTEK-PG-100**

Heat Transfer Fluid

SCM-129**1. IDENTIFICATION**

DISTRIBUTED BY: Specialty Chemical Manufacturing.

ADDRESS: 1633-B High Bridge Road

Quincy, FL 32351

EMERGENCY Phone No. 800-255-3924 Chem-Tel (Chemical Emergencies Only)

PHONE NUMBER FOR INFORMATION: 850-875-1716 Fax: 850-627-2699

DATE REVISED: 20 July 2005

NAME OF PREPARER: ANTHONY E. JERNIGAN

2. INGREDIENTS

MATERIAL	CAS#	PEL (OSHA)	TLV (ACGIH)	% BY WT.
Propylene Glycol	57-55-6	None	None	70
Proprietary Additives		None	None	<5

3. HAZARDS IDENTIFICATION

	HMIS	NFPA
HEALTH:	0	0
FLAMMABILITY:	1	1
REACTIVITY:	0	0

KEY: 0 – Minimal, 1 – Slight, 2 – Moderate, 3 – Serious, 4 – Severe

POTENTIAL HEALTH EFFECTS**Routes of Exposure:** Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact**EYE:** May cause minor eye irritation.**SKIN:** No significant adverse effects are expected under anticipated conditions of normal use. Repeated, prolonged exposure may cause slight flaking, tenderness, and softening of skin.**INGESTION:** No significant adverse effects are expected under anticipated conditions of normal use. Excessive ingestion may cause central nervous system effects.**INHALATION:** No significant adverse effects are expected under anticipated conditions of normal use. If effects do occur, refer to FIRST AID Section.**SIGNS AND SYMPTOMS OF OVEREXPOSURE:** Same as above.**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Material and/or its emissions may aggravate preexisting eye disease.**OTHER HEALTH INFORMATION:** None

4. FIRST AID MEASURES

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Obtain medical attention if pain, blinking, tears or redness persist.

Skin: Product is not expected to present a significant skin hazard under anticipated conditions of normal use.

Inhalation: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Ingestion: If large quantity is allowed, give a pint of luke warm water if victim is completely conscious and alert. If large quantities are consumed, induce vomiting. Obtain emergency medical attention.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 99 °C (211 °F)

FLAMMABILITY LIMITS

Lower Flammability Limit: 3.5%

Upper Flammability Limit: 17.5%

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, alcohol type foam, water spray, water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Wear positive pressure, self-contained breathing apparatus and other protective apparatus as warranted. Fight fire from distance or protected location – heat may build up pressure and rupture closed containers. Liquid may form slippery film. Use water spray or fog for cooling, solid stream may spread fire as burning liquid will float on water. Avoid frothing/steam explosion. Notify authorities if liquid enters sewers/ public waters.

UNUSUAL FIRE AND EXPLOSION HAZARDS: heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air and travel long distances along ground before igniting and flashing back. Fine sprays and mists may be combustible at temperatures below normal flash point.

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY CONTACTS: Chemtel 800-255-3924

STYEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Prevent flow to sewers and public waters as it may contaminate said water. Restrict usage to prevent slip/fall hazard. Soak up small spills with inert solids. Dike and recover large land spills. Notify appropriate authorities if product enters any waterways.

7. HANDLING AND STORAGE

Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -22 °C (-8°F). Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: No special respiratory protection equipment is recommended under normal conditions of anticipated use with adequate ventilation.

Ventilation: Adequate general ventilation is required, local exhaust is recommended if possible.

Protective Gloves: Not required.

Eye Protection: Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.

Engineering Controls: Keep containers closed when not in use.

Personal Hygiene: If product handling results in skin contact, wash hands and other exposed areas with mild soap and water before eating, drinking, smoking, or using the toilet facilities. Promptly remove soiled clothing and wash before reuse.

9. PHYSICAL PROPERTIES

Boiling point: 185 °C (365 °F)

Freeze point: -60°F

Specific gravity (water = 1): 1.04

Pounds / gallon: 8.7

Vapor pressure @ 20 °C: <0.1 mm hg

Vapor density (air = 1): 2.6

Water solubility: miscible

Evaporation rate (buac = 1): slight

Appearance and odor: Slightly viscous, almost odorless blue liquid

10. STABILITY AND REACTIVITY

STABILITY: Stable CONDITIONS TO AVOID: Heat, sparks, open flame.

MATERIALS TO AVOID: Strong alkalis, strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and other toxic vapors.

HAZARDOUS POLYMERIZATION: Not expected to occur.

11. TOXICOLOGICAL INFORMATION

SKIN: The LD50 for skin absorption in rabbits is > 10,000 mg/kg.

INGESTION: The oral LD50 for rats is 20,000-34,000 mg/kg.

MUTAGENICITY (THE EFFECTS ON GENETIC MATERIAL): In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (Log Kow) is –

1.36. Henry's Law Constant (H) is 1.2E-8 atm.m³/mole.

DEGRADATION & TRANSFORMATION: Biodegradation under aerobic static laboratory conditions is high (BOD₂₀ or BOD₂₈/ThOD greater than 40%). Biodegradation is expected to be achievable in a secondary wastewater treatment plant. 5-Day biochemical oxygen demand (BOD₅) is 1.16 p/p. 20-Day biochemical oxygen demand (BOD₂₀) is 1.45 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.68 p/p. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Inhibitory concentration (IC₅₀) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline #209) is < 1000 mg/L. Degradation is expected in the atmospheric environment within days to weeks.

ECOTOXICOLOGY: based largely or completely in information for similar material, i.e. propylene glycol. Material is practically non-toxic to aquatic organisms on an acute basis (LC₅₀ greater than 100 mg/L in most sensitive species). Acute LC₅₀ for fathead minnow (*Pimephales promelas*) is 4600-54900 mg/L. Acute LC₅₀ for guppy (*Poecilla reticulata*) is greater than 10000 mg/L. Acute LC₅₀ for water flea *Daphne magna* is 4850-34400 mg/L. Acute LC₅₀ for rainbow trout (*Oncorhynchus mykiss*) is 44mL/L (about 44000 mg/L).

13.DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Landfill solids at permitted sites using registered transporters. Burn concentrated liquids, avoiding flameouts, and assuring emissions comply with applicable regulations. Diluted aqueous waste may biodegrade, but avoid overloading plant biomass and assure effluent complies with applicable regulations.

14.TRANSPORT INFORMATION

This product is not regulated by DOT.

15.REGULATORY INFORMATION

WHMIS classification for product: N/A

This product has been classified in accordance with the hazard criteria of the CFR and the MSDS contains all the information required by the CFR

16.OTHER INFORMATION

This information is, to the best of our knowledge and belief, accurate and reliable as of the date completed. However no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the completeness and suitability of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information, nor do we offer any warranty against patent infringement.